U. S. Environmental Protection Agency
Public Water System Supervision Program

Final Report
Data Verification Review

West Virginia Department of Health and Human Resources
Bureau for Public Health
Office of Environmental Health Services
Environmental Engineering Division

Prepared by the Confidential Business Info
October 11, 2002

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EXECUTIVE SUMMARY

I. Introduction

During the week of June 24, 2002 the "team," consisting of four representatives of The Confidential Business Info and three representatives of the U.S. Environmental Protection Agency (EPA) Region 3, conducted a data verification (DV) in the West Virginia Department of Health and Human Resources, Office of Environmental Health Services, Environmental Engineering Division (WVDHHR). The team reviewed the files of a randomly selected number of public water systems (PWSs) maintained by WVDHHR in the Central office in Charleston, and the District offices of Philippi and Wheeling. The team reviewed community water systems (CWSs), nontransient noncommunity water systems (NTNCWSs), and transient noncommunity water systems (TNCWSs). This report documents the findings of the review.

A. State Offices

The WVDHHR Central office is located in Charleston West Virginia. WV has five District offices in the State which are organized by county served. The Central office is responsible for the Total Coliform Rule (TCR), Lead and Copper Rule (LCR), Radiological rule, Consumer Confidence Reports Rule (CCR), Surface Water Treatment Rule (SWTR), Total Trihalomethanes (TTHMs), and the Public Notification rule (PN) for all PWSs, and nitrate and nitrite for TNCWSs. The District offices are responsible for all Phase II/V contaminants for CWSs and NTNCWSs, site sampling plans, and conducting sanitary surveys for all PWSs. WVDHHR began transferring responsibility for all Phase II/V tracking to the Central office from the District offices in March 2002.

B. Description of Sample

Table 1 identifies the Safe Drinking Water Information System (SDWIS/Fed) inventory for West Virginia, the inventory in the WVDHHR database, and the number of systems in the stratified, random sample reviewed by the team. The sample of 27 CWSs, 18 NTNCWSs, and 21 TNCWSs represented a 90 percent confidence interval with an error tolerance level of 6 percent. Since the LCR was evaluated from the beginning of the rule in an earlier data verification, the team reviewed 25 CWSs (12 for Wheeling and 13 for Philippi) and 15 NTNCWSs (9 for Wheeling and 6 for Philippi) the two most recent samples. An additional sample of non-purchased CWSs and NTNCWSs that were inserted into SDWIS/Fed in or after 1996 or 1997 was evaluated from the beginning of the rule for each District office. Since there are very few new PWSs in these districts, only one NTNCWS was reviewed for Wheeling, and four CWSs and four NTNCWS were reviewed for Philippi.

Table 1: Number of PWSs in SDWIS/Fed and State Inventories and Number Reviewed by Data Verification Team .

	Number of CWSs	Number of NTNCWSs	Number of TNCWSs
SDWIS/Fed Inventory[1]	558	184	583
State Inventory	557	181	580
Systems in Sample	27	18	21
Number of Systems Reviewed	27	18	21

[1]SDWIS/Fed inventory as of 6/12/02; State inventory as supplied by the State on 6/25/02.

C. Description of Review

The team reviewed system files and printouts from the State Safe Drinking Water Information System database (SDWIS/State) for updates to inventory and compliance data for the TCR, and the State's Approach database (a Corel product) for LCR, CCR, Phase II/V Rules, TTHMs, Radionuclides, and SWTR. Table 2 notes the period of review for each regulation reviewed by the team.

Table 2: Period of Review

Category	Date
Inventory	Most recent
CCR	2000 Reports, due July 1, 2001
Total Coliform Rule	Apr 1, 2001 - Mar 31, 2002
Surface Water Treatment Rule	Apr 1, 2001 - Mar 31, 2002
Lead & Copper Rule	From beginning of rule (extra pull of new systems); 2 most recent samples for remaining systems
Phase II/V (except nitrate)	1999 - 2001
Nitrate	2000, 2001
TTHMs	Apr 1, 2001 - Mar 31, 2002
Radionuclides	2 most recent samples
Enforcement	Per related violation
Public Notice	Per related violation

II. Findings

Below are the findings of the DV team. We will discuss any implementation policies specific to the State, the greatest strengths of the State's drinking water program and the areas most needing improvement, as relates to the major discrepancies identified. Tables 3A-G numerically summarize the discrepancies detected for each system

type (reason codes are defined in Appendix A) and Table 4 shows the number of CWSs and NTNCWSs with LCR discrepancies.

A. Implementation of Regulations in West Virginia

West Virginia issues statewide waivers for dioxin, asbestos, glyphosate, diquat, and endothall based on geographic vulnerability. Asbestos waivers are offered to systems that do not use asbestos cement (AC) pipe, or where their geography does not indicate the potential natural presence of asbestos. WVDHHR issues VOC and SOC waivers to groundwater systems based on vulnerability to contamination as determined during wellhead protection delineations. Surface water systems are generally issued use waivers for VOCs and SOCs. VOC and SOC waivers are granted for three year compliance periods. WV does not issue IOC waivers (other than for asbestos). PWSs analyze total nitrogen, rather than analyzing nitrate and nitrite separately.

WV has one water system which does not directly serve water to the public. The wholesaler's population in SDWIS/Fed is listed as zero, and this system was not required to conduct any monitoring, as they pipe water directly to other water systems. In this instance, the purchasing water systems are required to conduct all bacteriological and chemical monitoring.

Triennial samples for the LCR are collected in three year compliance periods, rather than every three years. This means that the State may allow systems to collect LCR samples six years apart, rather than every three years, as required by Federal regulations. WVDHHR states that they have verbal approval from EPA Region 3 personnel, but EPA Region 3 staff maintain that this policy was not approved. WVDHHR maintains that this policy has been discussed at EPA-State meetings, and that the policy is approved by Region 3. Without written approval of this policy however, the DV team feels that it is appropriate to issue discrepancies for this policy. Only one PWS in the sample was issued a discrepancy due to this policy.

Public notice is currently tracked only for TCR acute violations (maximum contaminant level violations or MCLs) due in part to staffing issues, as well as electronic tracking capabilities.

All PWSs in WV are required to chlorinate and report chlorine residuals to the State.

Since the District offices schedule and conduct sanitary surveys for the systems, the State does not issue sanitary survey violations for failure to perform sanitary surveys.

B. Strengths of Program

General and Central Office

WVDHHR is an extremely well-organized program. Staff within the Central office and both Districts are knowledgeable about drinking water regulations and are dedicated to

maintaining and improving their program. The DV team is pleased to note a vast improvement in overall program effort and tracking since the last data verification conducted in 1997, and a considerable decrease in the number of systems with discrepancies, and the number of discrepancies per system. WV attributes part of this improvement to being authorized to hire more employees over the past few years.

Both the Central and District office files are well organized and complete. The database printouts of inventory information and TCR samples from SDWIS/State were also very helpful to the team, and increased the efficiency of the file review.

The State has a well-developed and efficient Phase II/V waiver program. Monitoring instructions to PWSs are detailed and exact for all rules. The State's sanitary survey format is well rounded and informative, and sanitary survey information in the files corresponds well with the sanitary survey information contained in the SDWIS/State database. The team found virtually no inventory discrepancies between the State files and SDWIS/Fed.

Notice of violation letters sent to systems were detailed, and specified remedial actions the system should take to return to compliance, including posting and/or publishing public notices. The formal notices of violation were also consistently reported to SDWIS/Fed, as well as the date of the request for PN.

To prepare for upcoming regulations, the Central office has already sent out letters informing systems of their requirements for TTHMs under the Stage 1 Disinfectants and Disinfection Byproducts Rule (DBPR), and radiological contaminants under the new Radionuclides Rule. The State hopes that preliminary monitoring efforts will identify systems needing to install treatment before the new TTHM MCLs take effect for all systems, and to encourage early compliance for radiological contaminants.

Wheeling District Office

The District offices send annual monitoring schedules and specific instructions to the systems. In order to better track compliance, all monitoring results received during the year are then attached to a copy of the scheduling letter, so the team was easily able to determine compliance with Federal regulations.

Since WV does not currently have an electronic Phase II/V scheduling system in place, the Wheeling District engineer manually tracks Phase II/V requirements for each system on a spreadsheet. Sanitary surveys were also tracked in the same manner, which proved to be a useful tool in ensuring system compliance.

Philippi District Office

Philippi's files were highly organized, reflecting that office's efficient approach to managing their systems. Paperwork, such as review forms for CCRs, inventory changes, SOX forms, and detailed and exact monitoring instructions to systems, gave an excellent history for the systems reviewed. The staff there also exhibited intimate knowledge of and strong interest in the systems under their purview.

C. Areas Needing Improvement

Overall, very few discrepancies were identified in WV. While compliance has generally improved since the last data verification, the team noticed a few areas that are in need of improvement.

Central Office

WVDHHR did not review SWTR monthly operating reports (MORs) for treatment technique or monitoring and reporting (M/R) violations for approximately one year due to staffing shortfalls in the Central office. The employee responsible for the SWTR was on leave for one year, and other staff who were unfamiliar with the rule, and responsible for numerous other tasks at the same time focused more on obtaining the MORs from systems rather than reviewing them. The Central office should ensure that staff are available and trained to interpret and review MORs for the SWTR. A few treatment technique (TT) violations, where turbidity was above the Federal standard were not detected by Central office staff. Staff should also check each month to ensure that all required chlorine residual and turbidity samples are being collected properly, at the required frequency, and are being reported on time to the State. The team understands that WV has had to prioritize staff attention in specific areas, due to staffing shortfalls, but the team encourages WV to more closely monitor surface water systems in the State in the interest in providing a high level of public health protection.

The team noted that, overall, chlorine residuals are very high. WVDHHR might take note of this in light of the upcoming Interim Enhanced Surface Water Treatment Rules (IESWTR) and DBPR, as chlorine residuals will have to be more tightly managed under these rules.

While the Central office has made an effort to track PN for TCR MCL violations, more attention needs to be paid, and a tracking system developed for PN for all violations, including M/R violations. The continued use of SDWIS/State modules and SDWIS/State upgrades will help WV track PN more efficiently. While the State currently does not have a tracking system in place for PN for rules other than the TCR, it is important to ensure that PN is being posted and received from the systems. There were numerous instances where District staff knew that systems had either posted or published PN, as they had directly advised the system on PN language and requirements, but PN was not found in the system files (it is also important to note that the Central office, not the District offices are responsible for tracking PN). While the team was on site, the Wheeling District office phoned all systems missing PN, and the certifications were faxed to the district office. In these cases, the team did not issue discrepancies. The DV

team did not issue discrepancies for Tier 3 PN violations, which generally include all monitoring and reporting violations, as PWSs have one year to forward proof of PN to the State.

While very few discrepancies were found, the Central office does not have a tracking system for radiological contaminants. Since the frequency of monitoring is expected to increase under the new Radionuclides Rule, instituting a tracking system will help WV avoid future M/R violations and discrepancies.

For the lead and copper rule (LCR), all lead 90th percentile levels for large and medium systems, lead 90th percentile exceedances for small systems, and copper 90th percentile exceedances for all systems should be submitted to SDWIS/Fed. Systems with action level exceedances (ALEs) should take source water samples, water quality parameters, submit a corrosion control study and engage in public education, for a lead ALE. Failure to take these steps should elicit the appropriate violations. Annual and triennial samples should also be taken on schedule.

If the enforcement team is having difficulty bringing problem systems into compliance, WVDHHR should consider working with Region 3 to develop more effective approaches.

Wheeling District Office

The current spreadsheet tracking system appears to work well for PWSs that do not have detects of VOCs and SOCs above the method detection limits (MDLs) in the Wheeling office. Since there was only one district engineer in the office for at least five years, some VOC detects above the MDLs were not detected, and the systems were not asked to follow up with quarterly monitoring. The team noted proper follow-up sampling after MCL violations, however.

Shifting responsibility from District engineers (who are responsible for numerous other tasks besides Phase II/V tracking for CWSs and NTNCWSs, and conducting all sanitary surveys) will decrease the workload demand on the already short-staffed district offices. The team encourages the Central office to ensure that a similar tracking system is instituted to ensure that PWSs collect their required samples, and all violations are reported to SDWIS/Fed.

The District engineer is also responsible for scheduling and conducting sanitary surveys for all systems. The system appears to work well for CWSs and NTNCWSs, but the team found that many TNCWSs did not have a sanitary survey before June 29, 1999 (many systems were surveyed in August 1999, and shortly thereafter). At the time the sanitary surveys were scheduled for the systems, the district engineer was not aware of this date requirement, and the team issued discrepancies in these cases. The team would like to note that most systems are now on schedule for having sanitary surveys according to the Federal schedule, and continued tracking will ensure that sanitary surveys are conducted on time. We also encourage WV to report these, and any other future sanitary survey violations to SDWIS/Fed, even though the State is responsible for the scheduling.

Philippi District Office

The Philippi office feels that they have been unable to use time and resources efficiently because they feel they do not have adequate technical training on SDWIS/State. They are unable to extract information out of SDWIS/State, so they maintain all data in parallel in a more familiar Lotus database. They keep virtually the same hard copy files as the Central Office and see this as a duplication of effort. The Philippi office also expressed concerns regarding the SDWIS/State change forms used by WVDHHR. The forms consist of multiple changes and involve excessive time and effort to effect one electronic change in SDWIS/State.

The Philippi office has experienced many of the same problems with sanitary surveys of TNCWSs as in Wheeling. The team found that many TNCWSs did not have a sanitary survey before June 29, 1999 (many systems were surveyed in August 1999, and shortly thereafter). Improvements have begun, as noted above.

The DV team hopes that the findings and recommendations outlined in this report will be of use to WVDHHR in improving data reporting and tracking methods.

Table 3A: Inventory - 66 Systems Reviewed		
Violation Category/Type	Number of Systems with this Discrepancy Type	
	Philippi District Office	Wheeling District Office
Community Water Systems Reviewed: *Wheeling District Office = 13 Philippi District Office= 14*		
Wrong PWSID in SDWIS	1	0
Nontransient Noncommunity Water Systems Reviewed: *Wheeling District Office = 9 Philippi District Office= 9*		
Wrong or missing address of administrative contact in SDWIS/Fed	1	0
Transient Noncommunity Water Systems Reviewed: *Wheeling District Office = 9 Philippi District Office = 12*		
Wrong or missing owner type in SDWIS/Fed	1	0
System had no sanitary survey within the past 5 years; no violation in SDWIS/Fed	5	5

Table 3B: Total Coliform Rule				
Reason for Discrepancy	Column A Number of Systems with Discrepancies	Column B Number of Violations Determined by State or DV team	Column C Data Flow Discrepancies	Column D Compliance Determination Discrepancies
Wheeling District Office				
Community Water Systems Reviewed: 13	***Total Number of Systems with Violations: 2***			
Number of Violations Determined Correctly by State		3		
	Total	3		
Transient Noncommunity Water Systems Reviewed: 9	***Total Number of Systems with Violations: 5***			
A - No sample data; no violation assigned	2	2	0	2
L - Insufficient number of samples taken	1	1	0	1
Number of Violations Determined Correctly by State		9		
	Total	12	0	3
Philippi District Office				
Community Water Systems Reviewed: 14	***Total Number of Systems with Violations: 4***			
Number of Violations Determined Correctly by State		14		
	Total	14	0	0
Nontransient Noncommunity Water Systems Reviewed: 9	***Total Number of Systems with Violations: 1***			
Number of Violations Determined Correctly by State		2		
	Total	2	0	0
Transient Noncommunity Water Systems Reviewed: 12	***Total Number of Systems with Violations: 2***			
Number of Violations Determined Correctly by State		2		
	Total	2	0	0

Table 3C: Phase II/V				
Reason for Discrepancy	Column A Number of Systems with Discrepancies	Column B Number of Violations Determined by State or DV team	Column C Data Flow Discrepancies	Column D Compliance Determination Discrepancies
Wheeling District Office				
Community Water Systems Reviewed: 10	***Total Number of Systems with Violations: 4***			
G - Incorrect information entered into database	1	1	0	1
J - Incorrect sampling/analytical procedure	1	1	0	1
N - Insufficient quarterly monitoring conducted after detect/trigger	3	6	0	6
Number of Violations Determined Correctly by State		0		
	Total	8	0	8
Nontransient Noncommunity Water Systems Reviewed: 8	***Total Number of Systems with Violations: 2***			
A - No sample data; no violation assigned	2	1	0	1
R - Sample missing one or more analytes	1	2	0	2
Number of Violations Determined Correctly by State		1		
	Total	4	0	3
Transient Noncommunity Water Systems Reviewed: 9	***Total Number of Systems with Violations: 1***			
Number of Violations Determined Correctly by State		1		
	Total	1	0	0

Table 3D: Radionuclides				
Reason for Discrepancy	Column A Number of Systems with Discrepancies	Column B Number of Violations Determined by State or DV team	Column C Data Flow Discrepancies	Column D Compliance Determination Discrepancies
Wheeling District Office				
Community Water Systems Reviewed: 9	***Total Number of Systems with Violations: 1***			
A - No sample data; no violation assigned	1	1	0	1
Number of Violations Determined Correctly by State		0		
	Total	1	0	1

Table 3E: SWTR				
Reason for Discrepancy	Column A Number of Systems with Discrepancies	Column B Number of Violations Determined by State or DV team	Column C Data Flow Discrepancies	Column D Compliance Determination Discrepancies
Wheeling District Office				
Community Water Systems Reviewed: 2	***Total Number of Systems with Violations: 1***			
M - Incorrect Treatment Technique violation determination or failure to assign violation	1	2	0	2
Number of Violations Determined Correctly by State		0		
	Total	2	0	2
Nontransient Noncommunity Water Systems Reviewed: 1	***Total Number of Systems with Violations: 1***			
E - Violation in state database not reported to SDWIS/Fed	1	2	0	2
Number of Violations Determined Correctly by State		0		
	Total	2	0	2
Philippi District Office				
Nontransient Noncommunity Water Systems Reviewed: 2	***Total Number of Systems with Violations: 2***			
E - Violation in state database not reported to SDWIS/Fed	1	1	1	0
A - No sample data; no violation assigned	1	3	0	3
L - Insufficient number of samples taken	1	4	0	4
Number of Violations Determined Correctly by State		1		
	Total	9	1	7

Table 3F: Enforcements				
Reason for Discrepancy	Column A Number of Systems with Discrepancies	Column B Number of Violations Determined by State or DV team	Column C Data Flow Discrepancies	Column D Compliance Determination Discrepancies
Wheeling District Office				
Community Water Systems Reviewed: 13	***Total Number of Systems with Violations: 2***			
Number of Violations Determined Correctly by State		7		
	Total	7	0	0
Nontransient Noncommunity Water Systems Reviewed: 9	***Total Number of Systems with Violations: 1***			
Number of Violations Determined Correctly by State		1		
	Total	1	0	0
Transient Noncommunity Water Systems Reviewed: 9	***Total Number of Systems with Violations: 5***			
Number of Violations Determined Correctly by State		16		
	Total	16	0	0
Philippi District Office				
Community Water Systems Reviewed: 14	***Total Number of Systems with Violations: 4***			
Number of Violations Determined Correctly by State		14		
	Total	14	0	0
Nontransient Noncommunity Water Systems Reviewed: 9	***Total Number of Systems with Violations: 2***			
Number of Violations Determined Correctly by State		3		
	Total	3	0	0
Transient Noncommunity Water Systems Reviewed: 12	***Total Number of Systems with Violations: 2***			
Number of Violations Determined Correctly by State		2		
	Total	2	0	0

Table 3G: Public Notification				
Reason for Discrepancy	Column A Number of Systems with Discrepancies	Column B Number of Violations Determined by State or DV team	Column C Data Flow Discrepancies	Column D Compliance Determination Discrepancies
Wheeling District Office				
Community Water Systems Reviewed: 13	***Total Number of Systems with Violations: 2***			
S - Failure to assign violation	2	2	0	2
Number of Violations Determined Correctly by State		2		
	Total	4	0	2
Transient Noncommunity Water Systems Reviewed: 9	***Total Number of Systems with Violations: 1***			
Number of Violations Determined Correctly by State		1		
	Total	1	0	0

Note 1: Three CWSs and one NTNCWS in the Wheeling sample, and five CWSs, and one NTNCWS in the Philippi sample purchase their water. Purchased systems are not required to perform monitoring for Phase II/V and radiological chemicals, TTHMs, or the SWTR and thus are not reviewed for those rules.

Note 2: Column A shows the number of systems that have discrepancies. The number of violations in Column B corresponds to the number of Federal violations identified by the State or DV team, and the number of violations correctly determined by the State. These numbers are provided as a frame of reference against which the number of discrepancies can be compared.

Note 3: Data flow discrepancies refer to violations or enforcement actions that are noted in the State file and/or database but that are not reported or are incorrectly reported to SDWIS/Fed. Discrepancies are calculated for each compliance period and for a given contaminant or contaminant group.

Note 4: A compliance determination discrepancy occurs when a State does not detect a violation or incorrectly identifies a system as being in violation of a Federal regulation. For example, if monitoring has not been conducted by a system and no violation is acknowledged in State file or database and no violation is reported to SDWIS/Fed, then a compliance determination discrepancy is assigned. For example, assume that a system was required to conduct quarterly SOC monitoring and the DV team saw no evidence that the monitoring had been conducted, either in the State files or database. Furthermore, no violations had been reported to SDWIS/Fed. The team would record this as four M/R compliance determination discrepancies: quarterly violations for one year between 1999 and 2001, or the period of review.

Note 5: State violations are not considered in the discrepancy assessment.

Note 6: Reason codes can be found in Appendix A, Data Verification Discrepancy Definitions

Table 4: LCR Discrepancies

Requirement	Number of systems that:	Wheeling District Office		Philippi District Office	
		CWS (12)	NTNC (10)	CWS (15)	NTNC (10)
Initial Monitoring (Violation Code 51)	Never sampled	0	0	0	0
	Began monitoring after required deadline	0	0	0	0
	Never completed two, consecutive six-month rounds of sampling	0	0	0	0
	Did not collect enough samples or calculated 90th percentile value incorrectly	0	0	0	0
	Submitted samples late	0	0	0	0
	Have incorrect violation in SDWIS/Fed	0	0	0	0
Return to Compliance (RTC) for Initial Monitoring (Enforcement Code SOX)	RTC after only one round of sampling	0	0	0	0
	Never RTC after sampling begun	0	0	0	0
	Incorrect or missing RTC date in SDWIS/Fed	0	0	0	0
	Have not RTC, but SOX code is in SDWIS/Fed	0	0	0	0
Routine/Follow-up Monitoring (Violation Code 52)	Failed to collect two, consecutive six-month rounds after OCCT (follow-up samples)	0	0	0	0
	Never completed annual/triennial samples (routine samples)	0	0	0	2
	Failed to sample in summer months (routine samples)	0	1	0	0
	Did not collect enough sampled or calculated 90th percentile value incorrectly	0	0	1	0
	Have incorrect violation in SDWIS/Fed	0	0	0	0
Steps Required after ALE (or required for all large systems)	Did not report ALE to SDWIS/Fed (PB90 or CU90)	1	0	0	1
	Did not detect ALE or ALE not valid	0	0	0	0
	Never collected water quality parameters (WQPs) (Violation Code 53)	0	0	0	1
	Collected WQPs late or incorrectly (Violation Code 53)	0	0	0	0
	Never collected source water samples (Violation Code 56)	0	0	0	1
	Collected source water samples late or incorrectly (Violation Code 56)	0	0	0	0
	Source water treatment recommendation: Failed or late to submit recommendation (Violation Code 61)	0	0	0	0
	Source water installation: Failed to meet deadline (Violation Code 62)	0	0	0	0
	Public education: Failed to do PE on time and at proper frequency (Violation Code 65)	0	0	0	1
	OCCT Study and/or recommendations: Failed to meet deadlines (Violation Code 57)	0	0	0	1
	Corrosion control installation (Violation Code 58)	0	0	0	0
	Lead service line replacement: Failed to meet schedule for partial replacement (Violation code 64)	0	0	0	0
	Lead service line replacement: Failed to meet schedule for total replacement (Violation code 64)	0	0	0	0

Table 4: LCR Discrepancies					
Requirement	Number of systems that:	Wheeling District Office		Philippi District Office	
		CWS (12)	NTNC (10)	CWS (15)	NTNC (10)
	All previous violations in this category: Public notification not demonstrated	0	0	0	0
	All previous violations in this category: Have incorrect violation in SDWIS/Fed	0	0	0	0

I. Introduction

During the week of June 24, 2002, the "team," consisting of four representatives of The Confidential Business Info and three representatives of the U.S. Environmental Protection Agency (EPA) Region 3, conducted a data verification (DV) in the West Virginia Department of Health and Human Resources, Office of Environmental Health Services, Environmental Engineering Division (WVDHHR). The team reviewed the files of a randomly selected number of public water systems (PWSs) maintained by WVDHHR in the Central office in Charleston, and the District offices of Philippi and Wheeling. The samples were selected to provide a statistically significant sample for each District office. The team reviewed community water systems (CWSs), nontransient noncommunity water systems (NTNCWSs), and transient noncommunity water systems (TNCWSs). This report documents the findings of the review.

The WVDHHR Central office is located in Charleston West Virginia. WV has five District offices in the State which are organized by county served. The Central office is responsible for the Total Coliform Rule (TCR), Lead and Copper Rule (LCR), Radiological rule, Consumer Confidence Reports Rule (CCR), Surface Water Treatment Rule (SWTR), Total Trihalomethanes (TTHMs), and the Public Notification rule (PN) for all PWSs, and nitrate and nitrite for TNCWSs. The District offices are responsible for all Phase II/V contaminants for CWSs and NTNCWSs, site sampling plans, and conducting sanitary surveys for all PWSs. WVDHHR began transferring responsibility for all Phase II/V tracking to the Central office from the District offices in March 2002.

The DV had two objectives. The first objective was to detect discrepancies between the PWS data in WVDHHR files and database (both SDWIS/State and the Approach database), and the data reported to the Federal Safe Drinking Water Information System (SDWIS/Fed) regarding inventory, enforcement, violations, and milestones (if applicable) for the TCR, LCR, Phase II/V Rules, SWTR, radiological contaminants, and TTHMs.

The second objective was to ensure that WVDHHR is determining compliance in accordance with Federal and State primacy regulations.

The outcome of the DV is an itemization of discrepancies, calculated by system type (i.e., CWS, NTNCWS, and TNCWS) and by regulation. The team totals the number of violations incurred by the systems during the period of review and then determines the number of these violations that were not reported to SDWIS/Fed, or any other discrepancies.

There are two types of discrepancies: data flow discrepancies and compliance determination discrepancies. Data flow discrepancies are violations of National Primary Drinking Water Regulations (NPDWRs) that are detected by the State, but are not posted to SDWIS/Fed. The team knows that the State detected the violation when it finds correspondence with the system, enforcement actions, or violations in the State database. Data flow discrepancies also occur when the State incorrectly reports the violation to SDWIS/Fed, such as incorrectly coding a violation. Compliance determination discrepancies occur when the State did not detect

the violation or reports a violation to SDWIS/Fed that was not substantiated by information contained in the State files or database.

Appendix A contains a complete list of the types of discrepancies identified by the team and their definitions. Table 3A-G in the Executive Summary summarizes the number and type of discrepancies for CWSs, NTNCWSs, and TNCWSs. Table 4 summarizes the LCR review. For more detail, Appendix B provides a system-specific list of each discrepancy organized by rule.

II. Description of the Sample

According to SDWIS/Fed, WVDHHR regulates 1,325 active PWSs (based on SDWIS/Fed report dated June 12, 2002). This inventory includes 558 CWSs, 184 NTNCWSs, and 583 TNCWSs. A stratified, random sample of 66 PWSs was selected for the review that included 13 CWSs, nine NTNCWSs, and nine TNCWSs for the Wheeling District office and 14 CWSs, nine NTNCWSs, and 12 TNCWSs for the Philippi District office (see Table 1 in the Executive Summary for an enumeration of the sample). The sample of systems reviewed represents a 90 percent confidence interval with an error tolerance level of 6 percent. Since the LCR was evaluated from the beginning of the rule in an earlier data verification, the team reviewed 18 non-purchased CWSs and 16 NTNCWSs for the two most recent samples. An additional sample of non-purchased CWSs and NTNCWSs that were inserted into SDWIS/Fed after 1996 was evaluated from the beginning of the rule for each District office. Since there are very few new PWSs in these districts, only one non-purchased NTNCWS was reviewed for Wheeling, and four CWSs and two NTNCWS were reviewed for Philippi.

The DV project examines the State's accuracy rate for reporting inventory changes, violations, milestones, and enforcement actions to SDWIS/Fed. We define all of these required reporting elements as "actions." The team must review enough actions to obtain statistically significant results. However, the only logical unit of analysis is systems rather than actions, as data in SDWIS/Fed and in State records are organized by system. To convert actions to systems, Confidential Business estimated the average number of actions per system nationwide by examining data from DV trips completed in 1997 and 1998. (The average number of actions per system was determined to be 11.38 for CWS, 13.22 for NTNCWS, and 8.51 for TNCWSs.) By multiplying the average number of actions per system times the number of systems in the State, the total number of actions in the State can be estimated. Once the total number of actions is determined, a sample can be drawn. Using a confidence level of 90 percent and an error tolerance of 5 percent, the optimal number of actions needed to obtain statistically significant results was determined. The number of actions was translated into the number of systems that must be reviewed by using, again, the average number of systems.

The DVs use a two-stage cluster sampling approach to pick the systems for file review. First, the team must draw a random sample of systems in the State using SDWIS/Fed's random number generator. Then, the team must identify all actions for the systems selected and determine whether they were reported correctly to SDWIS/Fed. For further explanation of the

random sampling methods used, see Chapter Five in *EPA Protocol for Participation in a PWSS Program Data Verification* available from The Confidential Business Info

III. State Data Flow

Describing the flow of information from the point of sample collection to submittal of violations, enforcement actions, and milestones to SDWIS/Fed sometimes illustrates problems States face in managing their large data sets. The chain of custody for samples is explained below, as well as the methods used by WVDHHR to store information and calculate compliance.

Sample Collection and Analysis PWSs are responsible for collection of all analytical samples, and are responsible for reporting results to the State. Some commercial laboratories may also forward hard copy results to the State, and the State laboratory usually forwards hard copy TCR results directly to the State. Analytical samples are transferred to the laboratories via US third class mail, as it tends to be more reliable than other delivery methods. Overall in the State, approximately 70 to 80 percent of systems use the State laboratory. Approximately 50 percent of systems in the Wheeling and Philippi District offices use the State laboratory. Analytical results are sent to the State via US mail or fax (in the case of a positive result). No analytical results are currently reported to the State electronically.

System Files Hard copies of TCR, LCR, nitrate and nitrite for TNCWSs, radiological data, MORs for the SWTR, CCRs, and correspondence are maintained in the Central office files. Hard copies of Phase II/V data, nitrate and nitrite data for CWSs and NTNCWSs, and correspondence are stored in the District office files. Hard copies of sanitary surveys are stored in the system files at both the Central and District offices. Hard copy files contain data for at least the past 10 years in both the Central and District office files.

Data Storage and Compliance Determination

Central Office Files are stored by system, with separate folders for chemical data, LCR data, and correspondence. CCRs are stored in a separate folder, and organized by PWS ID number.

TCR results are entered into the State's Approach database as results are received from the laboratories. Violation information for TCR is also entered into SDWIS/State, as the State is running both databases at the same time to test the SDWIS/State TCR module. In the event of a positive TCR sample, the laboratories fax positive results to the Central office, and the Central office faxes the results to the District offices. The District office staff then contact the system to request additional samples. Total coliform positive, and fecal or *E. coli* positive samples are handled in the same manner. The system is generally notified of their positive sample in the same day that the laboratory notifies the State. The State Central office is currently using both the State database and SDWIS/State for the TCR. They run a pre-compliance report in SDWIS/State to check data against their database before issuing Monitoring and Reporting

(M/R) and maximum contaminant level (MCL) violations. The Central office then sends out notices of violation (NOVs) as necessary.

WVDHHR issues violations for failure to perform PN for TCR MCL violations, but has not issued other PN violations, and does not issue violations for failure to perform sanitary surveys.

Wheeling Office Files are stored by system, with a separate folder for chemical results and correspondence. Files are also color coordinated by system type.

The District engineer tracks Phase II/V monitoring with a scheduling spreadsheet. If monitoring results have not been received, office staff will phone the PWSs two weeks before the end of the compliance period to remind systems to collect their samples. Phase II/V and other chemical results are forwarded in hard copy to the District offices by mail from the laboratories. The District office personnel scan the results as they are received, to check for detects and MCL exceedances. In the event of a detect or a result over the MCL, the laboratory faxes the Central office, who then contacts the District offices. The District office then contacts the PWS by phone, and/or sends the system a letter, informing the system of the appropriate follow-up steps that need to be taken. The hard copy results are then entered by hand into a PC with SDWIS/State real-time write access.

Philippi Office Files are stored by PWS type, then by PWSID. Each file folder contains separate color-coded folders for each rule. Example colored file folders are also posted on the wall next to the filing cabinets to show which color relates to which rule. The team was pleased to note that Philippi's files were highly organized.

The District uses Lotus spreadsheets to track Phase II/V monitoring. These spreadsheets include waiver information that describes when the waiver was granted, how long it is in effect and how it affects the monitoring schedule. Chemical results and compliance determination are handled in the same way as in the Wheeling Office.

SDWIS/Fed Submittals Violation and enforcement data are entered into SDWIS/State, and are then sent to SDWIS/Fed via EPA Region 3. WVDHHR updates SDWIS/Fed quarterly using the total replace method. WVDHHR receives quarterly error reports and corrects errors monthly, however, the State feels that the error reports are not always helpful.

WVDHHR has the following overall concerns regarding State resources:

- WVDHHR has problems with data as old as 1995 that need to be corrected in SDWIS/Fed. The State would like to submit a total replace file to Region 3 to correct this old data (mostly errors in Phase II/V violation data). Region 3, however, feels that this is an inefficient way to correct a small number of errors. Region 3 would prefer that the State make changes to SDWIS/Fed using DTF writer, rather than submitting a total replace file with the changes. In turn, the

State feels that they should not have to enter the corrections in this manner, as the changes are already corrected in the total replace file that they have prepared. The team encourages EPA Region 3 and the State to work together to ensure that these errors are corrected as soon as possible.

- While WVDHHR was authorized to hire more staff in 1999 and 2000, the State still has a staffing shortage in both the Central and District offices. The State's low salary structure as compared to private industry compounds the State's inability to hire and retain knowledgeable staff. As stated earlier, the team has noted a marked improvement in program implementation. However, the State is still having trouble tracking PN for violations other than MCLs, and reviewing SWTR MORs. With the addition of numerous new rules and regulations expected in the next few years, the State will likely experience additional staffing shortfalls, which may affect overall program implementation.

- WVDHHR lost numerous computer staff to outside industries, and has had to hire and train new employees. The State also has inadequate computer hardware and software resources, which has also delayed the installation and use of the most recent versions of SDWIS/State.

- Every laboratory uses a different form to display results. This hinders the logging of results into SDWIS/State. A standardized form would ease data entry.

- The Philippi office feels that they have been unable to use time and resources efficiently because they do not have adequate technical support on SDWIS/State. They are unable to extract information out of SDWIS/State, so they maintain all data in parallel in Lotus so that they can later access it.

- The Philippi office keeps virtually the same hard copy files as the Central Office. They see this as a duplication of time and resources.

- The Philippi office expressed concerns regarding the SDWIS/State change forms used by WVDHHR. The forms consist of multiple changes and involve excessive time and effort to effect one electronic change in SDWIS/State.

IV. Inventory Data

A. Inventory Reporting Process

Inventory information is maintained in SDWIS/State, and in hard copy files. The DV team reviewed hard copy inventory reports that WVDHHR printed from SDWIS/State. The DV team reviewed the most recent sanitary survey data contained in the Central and District office files. If the WVDHHR SDWIS/State print outs, files, and SDWIS/Fed agreed (or were within ten percent), no discrepancy was recorded.

Inventory information is gleaned from detailed sanitary surveys, and entered into the SDWIS/State as changes are noted. WVDHHR inspectors take a copy of the last sanitary survey with them when they perform the survey. Any changed information is marked on the survey, and updated by administrative personnel upon their return from an inspection. Population estimates are based on US Census data which show that the average number of people per household in West Virginia is slightly less than 2.5. WVDHHR estimated population by assuming approximately 2.5 people per service connection. The team noted that WVDHHR uses inventory change forms that are easily identified in the files and contribute greatly to the historical record of the files.

Sanitary surveys are performed by WVDHHR District engineers once every three years for surface water and ground water under the direct influence of surface water (GUDI) CWSs, every five years for groundwater CWSs and NTNCWSs, and every 10 years for TNCs (protected and disinfected ground water sources). WVDHHR is currently meeting these goals. For five TNCWSs, however, the Wheeling District office conducted the first sanitary survey after June 1999, as the district engineer was not made aware of the due date of the sanitary surveys until after they had been conducted late. In Philippi, five TNCWSs had sanitary surveys after June 1999. Philippi was aware of the deadline, but did not have the resources to conduct sanitary surveys on all of their systems on time. TNCWSs were considered to be lowest priority by the Central Office. Discrepancies were issued in these cases.

Consumer Confidence Reports (CCR) WVDHHR does not yet have primacy for the CCR rule, but expects to submit their primacy package by August 21, 2002. The WVDHHR Central office tracks CCRs, but EPA Region 3 was responsible for reporting all violations to SDWIS/Fed during the period of review. The team also noted that the CCRs are well-detailed and that Central Office is carefully reviewing them for content. The team did not issue discrepancies for the CCR since EPA Region 3 was responsible for CCRs during the period of review.

Revised SDWIS/Fed Inventory Reporting Requirements as of January 1, 2000 For each public water system, States are required to report inventory information that describes it in some manner, that meets a programmatic need (e.g., grant eligibility requirement), or is operationally required by SDWIS/Fed to process the data (registration requirement). These data are called the "Core Data Set," and provide the minimum data set needed for EPA functions. For a description

of Revised Inventory Reporting Requirements, please see *Safe Drinking Water Information System (SDWIS/Fed) Fact Sheet: Revised Inventory Reporting Requirements, June 1998.*

Traditionally, DVs reviewed system name, address of responsible person, population served, service connections, system type and activity status, and source information. Discrepancies will still be given for individual systems that have inconsistencies for these inventory elements. As of CY2001, additional elements have been added to the DV methodology, including

- owner type;
- geographic area, including all FIPS county codes and cities served;
- locational data, including physical address for treatment plant (or latitude and longitude if physical address is not reported by 1/1/2000 for CWSs) and latitude and longitude for each source, plus method, accuracy, and description (MAD) codes for collecting latitude and longitude;
- service areas, e.g., residential, school, day care center; and
- type of treatment applied for each source or facility and for purchased sources, the seller's treatment status.

For these additional inventory elements, a different review methodology was employed. The DV team produced a series of reports from SDWIS/Fed that show, for each system and for the entire State, 1) the grant eligibility and withholding requirements and 2) a summary page to this report that shows the number of systems with data in these fields in SDWIS/Fed. The team determined which data were reported, and asked the State to review their data collection method. If data are missing, the team obtained the State's schedule for reporting the missing information.

Currently, 57.7 percent of CWSs, 85.3 percent of NTNCWSs, and 86.3 percent of TNCWSs are meeting the grant withholding requirements. Approximately 74 percent of all systems in the state meet the grant withholding requirements. Some systems are missing treatment plant addresses or latitude and longitude coordinates, latitude and longitude coordinates for sources of water, and many systems are missing a value of Yes/No for the source (or seller) treatment status flag for all of their sources. Some TNCWSs are missing service areas or primary service area indicators, and two systems are missing owner type codes (1 NTNCWS and 1 TNCWS).

WV did not realize that so many inventory reporting elements were missing from SDWIS/Fed. They received a Management Status Report from the Association of State Drinking Water Administrators dated December 31, 2001 indicating that 95 to 100 percent of CWSs had lat/long data and associated MAD codes already in SDWIS/Fed. WVDHHR is aware that this information is lacking for treatment plants for some of their systems, as WV had not included this task in their original agreement with their contractors. The State recently asked the contractors to collect this information, and it will be entered into SDWIS/Fed as soon as it is obtained. According to the State's records only 17 water plants in the State do not have lat/long data. Recent communication with WVDHHR indicates that some of the lat/long data were

imported into SDWIS/Fed from the source water program incorrectly. WV is currently working to correct the data in SDWIS/Fed.

WVDHHR also checked the source treatment flag status, and noted that they could only check the box off as "not treated," when in fact all PWSs in WV are required to chlorinate their water. The team recommends that EPA Region 3 work with the State to ensure that this information can be reported to SDWIS/Fed. The team suspects that the data are either not being transferred to SDWIS/Fed correctly, or there may be a problem with the version of SDWIS/State that WVDHHR is using, but the team was unable to confirm that with EPA. The DV team left a copy of the grant withholding reports with the State Central office, and they will address all missing data as soon as possible.

B. Inventory Discrepancies

The DV team compared WVDHHR data from both hard copy and SDWIS/State to SDWIS/Fed for 66 systems (13 CWS, 9 NTNCWS, and 9 TNCWS for Wheeling, and 14 CWSs, 9 NTNCWSs, and 12 TNCWSs for Philippi) for system name, name and address of administrative contact, PWSID number, population, service connections, type of system, status (active/inactive), source, and owner type.

Wheeling District Office

There were no inventory discrepancies for the Wheeling District office, indicating that all inventory information is being entered into SDWIS/State, and reported correctly to SDWIS/Fed. As discussed earlier, there were five sanitary survey discrepancies for TNCWSs. The team did not issue discrepancies for the CCR, since WV did not yet have primacy for the CCR.

Philippi District Office

Three inventory discrepancies were identified in the Philippi District Office. An administrative contact name was not listed for one system, and the owner type was incorrect for one system. In an unusual case, a PWSID discrepancy was assigned. Prior to 1981, McLaughlins Trailer Park's PWSID was WV3300403. The system was removed from the inventory in October, 1981. When the system was reinserted into the inventory in May 2001, WVDHHR assigned the PWSID of WV3300410. PWSIDs, once assigned, should never be changed; in this way the history of a water source is preserved. The DV team considers this to be a discrepancy. As discussed earlier, there were five sanitary survey discrepancies for TNCWSs. The team did not issue discrepancies for the CCR, since WV did not yet have primacy for the CCR.

For a system-specific listing of name and address discrepancies, refer to Exhibit 1. For all other inventory discrepancies, refer to Exhibit 2. For sanitary survey data discrepancies, refer to Exhibit 3.

Recommendations

- WVDHHR should continue to obtain and report all grant withholding requirement information to SDWIS/Fed, and should work closely with Region 3 to ensure that data are being submitted correctly.

- WVDHHR should report "28" violations to SDWIS/Fed for failure to conduct sanitary surveys, and for conducting sanitary surveys late.

- PWSIDs for water sources should remain consistent and not be changed through system inactivation and reactivation.

V. Total Coliform Rule Data

A. TCR Reporting Process

TCR data flow and compliance determination were described in Section III. WVDHHR requires all PWSs to monitor for TCR at least quarterly.

Invalidation of positive coliform samples is allowed by WVDHHR providing that the system resamples or samples are invalidated in accordance with requirements of the Total Coliform Rule. District offices may also invalidate a sample by completing a sample invalidation form which is then reviewed and approved by the Central office. In cases of laboratory error, the State accepts notification from the lab, and the system is always asked to collect another sample to replace the invalidated sample. The team did not find any instances of incorrectly invalidated samples, or missing replacement samples in the PWSs reviewed.

PWSs may collect repeat samples up to a week and a half after notification of a positive TCR result. If systems have extra sample bottles on hand, repeat samples are collected promptly. In many cases, the laboratory has to mail extra sample bottles to the system to collect the repeat samples. For the systems reviewed in the Wheeling and Philippi districts, the team did not detect excessive lag time between notification of positive and repeat samples. To ensure that repeat samples are collected in a more timely manner, PWSs should have some extra sample bottles on site.

In some cases, routine and repeat samples were not correctly identified in the printouts from SDWIS/State. The team was able to determine the type of sample by looking at the dates of sample collection, and no discrepancies were issued. WVDHHR notes that some PWSs do not routinely make this distinction on the laboratory form, and in some cases, the commercial laboratories do not make this distinction on the analytical results forms. The State cannot legally require the commercial laboratories to make this distinction on their forms at this time. The team suggests that the WVDHHR Central office provide further training to PWSs to ensure that the correct sample type is selected on the lab slips, and to encourage these PWSs to require that their contract laboratories also identify the correct sample type when returning analytical results.

The team noted that, overall, chlorine residuals are very high. WVDHHR might take note of this in light of the upcoming IESWTR and DBPR, as chlorine residuals will have to be more tightly managed under these rules.

The team noted that request and receipt for PN for MCL violations were tracked in SDWIS/State, and were found in the system files. PN for TCR M/R violations was not routinely tracked, and violations were not reported to SDWIS/Fed. However, the team did not issue discrepancies for Tier 3 PN violations, as PWSs have one year to forward proof of PN to the State.

B. TCR Discrepancies

The DV team reviewed printed copies of SDWIS/State for TCR data collected from April 1, 2001 through March 31, 2002 for 13 CWSs, 9 NTNCWSs and 9 TNCWSs for Wheeling, and 14 CWSs, 9 NTNCWSs and 12 TNCWSs for Philippi. Please see Exhibit 5 for a list of TCR discrepancies.

Wheeling District Office

Three TCR M/R discrepancies were recorded (for two TNCWSs) in the Wheeling District office.

Philippi District Office

No discrepancies were identified.

Recommendations

- The WVDHHR Central office should encourage PWSs to correctly identify routine and repeat samples; and if appropriate, ask PWSs to ensure that their contracted laboratories also correctly identify routine and repeat samples.

- The Central office should continue tracking PN for MCL violations, and expand the PN tracking system to include M/R violations. WVDHHR should also ensure that all TCR PN-related violations are reported to SDWIS/Fed.

VI. Phase II/V Rule

A. Notes Regarding Phase II/V Rule Review Methodology

Beginning with DVs conducted in the calendar year 1999, the team did not examine data for the 1993 - 1995 initial compliance period for the Phase II and V rules. The team reviewed only data and actions from the most recent compliance period of 1999 - 2001 for the Phase II and V rules. The review did not determine whether waivers were issued or grandfathered data accepted properly, and the team calculated compliance based on the schedule for monitoring established by the State for that compliance period. If the team did not find nitrite results for the 1996 - 1998 or 1999 - 2001 compliance periods, the team searched for results for the 1993 - 1995 period. If nitrite results were not found for any compliance period, a discrepancy is normally issued for the 1993 - 1995 compliance period.

B. Phase II/V Rule Reporting Process

Phase II/V data flow and compliance determination was described in Section III. The team observed that the Central office generally issues requests for PN, but does not track receipt of PN or report PN violations to SDWIS/Fed for M/R violations.

WVDHHR allows PWSs to collect total nitrate as nitrogen samples, rather than collecting separate nitrate and nitrite samples, since all systems in the state are required to disinfect. This is permitted under the Federal regulations, however, nitrate and nitrite samples must be collected separately if the total nitrogen sample result is greater than 5 mg/L. The team did not issue any discrepancies for this policy, as all total nitrogen results were less than 5 mg/L for all systems reviewed.

WVDHHR offers Statewide waivers for dioxin, endothall, glyphosate, and diquat. Asbestos sampling is waived where asbestos pipes are not present, or the geography does not indicate the potential natural presence.

IOCs WVDHHR does not issue IOC waivers.

VOCs For the regulated Phase II/V VOCs, three-year vulnerability/susceptibility waivers are available. While WVDHHR does not currently issue use waivers for VOCs, they may do so in the future. WVDHHR requires initial sampling before source specific waivers are issued for VOCs and SOCs, and evaluates vulnerability assessments, including assessing Wellhead Protection Areas, well construction, geological data, and sources of contamination for surface water systems. District staff then document findings on the PWS Vulnerability Assessment Checklist and make waiver eligibility recommendations to the Central office.

SOCs For the regulated Phase II/V SOCs, PWSs must have a source water protection plan in place to be eligible for VOC and SOC waivers. However, if the PWSs (ground water only) have no source water protection plan in place, they may complete a "use waiver" to become eligible for a reduction in sampling of once every three years for SOCs.

C. Phase II/V Rule Discrepancies

The DV team reviewed hard copy files in each of the District offices for IOCs, VOCs, and SOCs for the compliance period January 1, 1999 through December 31, 2001; nitrates were reviewed for calendar years 2000 and 2001 (TNCWSs were reviewed from hard copy files in the Central office); nitrites were reviewed for the January 1, 1993 through December 31, 1995 compliance period. Nineteen CWSs (10 for Wheeling, and nine for Philippi), 16 NTNCWS (eight for Wheeling and eight for Philippi), and 21 TNCWSs (nine for Wheeling and 12 for Philippi) were reviewed for nitrate and nitrite discrepancies; and 19 CWSs (10 for Wheeling, and nine for Philippi), 16 NTNCWS (eight for Wheeling and eight for Philippi) were reviewed for IOC, VOC, and SOC discrepancies.

Wheeling District Office

One CWS had a nitrate discrepancy. The sample exceeded the laboratory hold time, and was not replaced by the PWS.

One NTNCWS had an IOC discrepancy; the sample was missing results for antimony, cyanide, and nickel.

Three CWSs and one NTNCWs had VOC M/R discrepancies. In these cases, the District did not ask the PWSs for increased monitoring after VOCs were detected above the method detection limit (MDL). Staff were unaware that systems needed to conduct quarterly monitoring to determine if the system was reliably and consistently below the MCL after a detect, and staff were only scanning VOC and SOC results for MCL exceedances. There was one MCL discrepancy, where the Central office reported an average annual sample MCL violation (SDWIS/Fed violation code “02”) rather than a single sample MCL violation (SDWIS/Fed violation code “01”) to SDWIS/Fed. Staff reporting the violation type code were new to the Central office program at that time, and had not yet been trained to identify the difference between the two types of violations. Staff have since been trained on SDWIS/Fed reporting codes, and the team would like to note that other errors of this sort were not detected in the rest of the sample.

SOC results for one NTNCWS were missing lindane, and no violation was issued.

The team would like to note that follow-up for all MCL exceedances was conducted correctly, and in some cases, systems were asked to continue quarterly monitoring indefinitely due to an MCL exceedance.

Philippi District Office

No discrepancies were identified.

For a system-specific listing of Phase II/V discrepancies by contaminant group, refer to Exhibit 6 for nitrate and nitrite, Exhibit 7 for IOCs, Exhibit 8 for VOCs, and Exhibit 9 for SOCs. For an enumeration of discrepancies by system type, see Table 3E.

Recommendations

- WVDHHR should ensure that VOC and SOC results are carefully examined to determine if results are greater than the MDL.
- Follow-up quarterly monitoring should be conducted to determine if the system is reliably and consistently below the MCL.

VII. Total Trihalomethanes

A. Total Trihalomethanes Reporting Process

The reporting and data management process for Total Trihalomethanes is the same as for the Phase II/V chemicals. M/R and MCL violations are determined in the same manner as the Phase II/V chemicals.

Two systems in the Wheeling District office were required to test for TTHMS. No discrepancies were identified for these systems. No systems in Philippi were required to test for TTHMs.

B. Total Trihalomethanes Discrepancies

No discrepancies were identified, as noted in Exhibit 10.

Recommendations

1. None.

VIII. Radiological Contaminants

A. Radiological Reporting Process

The reporting and data management process for Radiologicals is the same as for the Phase II/V chemicals. M/R and MCL violations are determined in the same manner as the Phase II/V chemicals.

The Central office does not currently have a consistent way to track radiological contaminants. While radiological results are entered into the State's Approach database, staff must manually determine when systems need to collect a radiological sample, and when samples have been missed. Developing a consistent scheduling strategy will help avoid M/R violations, and the few discrepancies described below.

B. Radiological Discrepancies

The DV team reviewed radiological data from hard copy files in the Central office for 9 CWSs in the Wheeling sample, and 9 CWSs in the Philippi sample for the two most recent compliance periods.

Wheeling District Office

One CWS did not collect radiological samples every four years, and the violation was not detected by the State.

Philippi District Office

No discrepancies were identified.

For a system-specific listing of radiological discrepancies, refer to Exhibit 11. For an enumeration of discrepancies by system type, see Table 3D.

Recommendations

- Develop a consistent tracking and scheduling system to ensure that CWSs are conducting their sampling as required; and report violations to SDWIS/Fed.

IX. Lead and Copper Data

A. Notes Regarding Lead and Copper Rule Review Methodology

During DVs conducted over the past two years, several issues regarding implementation of the LCR were raised. For example, EPA has changed policies since initial implementation of the rule, such as criteria for returning a system to compliance after a monitoring violation, so the DV teams have found different policies in States over this issue. Recognizing the difficulty of resolving some remaining questions about implementation and reporting requirements for the LCR, the following approach has been developed to characterize implementation in the DV reports. In States where a thorough review of the LCR has already occurred on a previous DV, DV teams will review the two most recent samples collected for the regular sample of CWSs and NTNCWSs. The team will also review all LCR information for an additional sample of five CWSs and five NTNCWSs that were inserted into the SDWIS/Fed inventory in 1996 or 1997. The review will be the same as for the other regulations that are reviewed, relying on the most current implementation guidance. All monitoring dates, milestones, violations, and enforcement actions are recorded on the data collection forms, and missing data are noted.

However, the number of data flow and compliance determination discrepancies will not be counted as they are for the other regulations. This report includes some data for the LCR in a separate table in the Executive Summary. Unlike the exhibits for the other rules, the LCR exhibits do not describe all missing information in detail. Instead, the exhibit identifies some of the most critical monitoring and milestone activities that must be performed for the LCR and names the systems that failed to complete them. Some additional explanation, such as the year or month of the violation, will be noted.

In the LCR section of this report, the team makes general observations about implementation and enforcement. Patterns detected by the team are noted, and individual cases may be highlighted if they support the conclusions and recommendations. The data flow for the LCR is explained, with emphasis on those areas where the State may not be following up with the system or reporting to their Approach database or SDWIS/Fed. In some cases, the team may note where the State needs to make changes in their implementation approach to comply with the LCR Rule Revisions. For example, the new reporting requirements ask that States only return systems to compliance (RTC) for an initial monitoring violation after collecting two, consecutive rounds of six-month samples. Previously, EPA guidance permitted a RTC code after only one round was collected.

These changes to the LCR section will permit the team to finalize the LCR portion of the DV report, which has been eliminated for the past two years. This method will provide Implementation Staff with a snapshot of LCR implementation, plus indicate the scope of the problems found. It also outlines issues for the Data Management Staff. While the data will not be as precise as the information presented for other rules, the numbers should still help focus energy and funding on improvements.

B. Lead and Copper Reporting Process

PWSs are responsible for conducting sampling for the Lead and Copper Rule (LCR). The 90th percentile values for lead and copper are calculated by the Central office staff. If the system calculates the 90th percentile, State staff check the values to ensure accuracy.

In the event of an action level exceedance (ALE), WVDHHR sends a standard letter to the PWS informing them of the follow-up steps that need to be taken. In one case for a system in the Philippi office, the initial letter did not request Water Quality Parameter (WQP) samples, but another letter was sent to the system six months later, requesting WQPs.

The team noted that the State has provided corrosion control recommendations to all PWSs that were required to install treatment by 1997. The State uses the LCR Minor Revisions (LCRMR) method to determine compliance with optimal water quality parameters (OWQPs).

Parts of the LCRMR have been adopted by the State, but the State has not yet submitted their primacy package to Region 3. The primacy package is due by December 31, 2002, but the State hopes to submit it earlier in the year. WVDHHR began reporting the "deemed" and "done" milestones to SDWIS/Fed, although the DV team did not see these milestones in the SDWIS/Fed lead and copper report used to prepare our sample.

PWSs began monitoring for the LCR late according to the Federal schedule. When reviewing the regular sample for the two most recent sampling events, the team found that there were few discrepancies; most PWSs completed the appropriate monitoring. However, one system in the Wheeling sample failed to collect a sample in the summer months, and an ALE was not reported to SDWIS/Fed as a sample result for one system. In the Philippi sample, two systems failed to take annual or triennial samples. One system calculated the 90th percentile value for copper incorrectly. This did not, however, involve an ALE. Some ALEs were not reported to SDWIS/Fed. Under the LCRMR, all lead 90th percentile levels for large and medium systems, lead 90th percentile exceedances for small systems, and copper 90th percentile exceedances for all systems should be submitted to SDWIS/Fed. Finally, one system with successive ALEs failed to take water quality parameter samples, source water samples, did not submit an optimal corrosion control study recommendation and did not conduct public education.

WVDHHR allows PWSs to collect triennial LCR samples in three year compliance periods, rather than collecting the samples every three years. EPA Region 3 staff do not have documentation, or notes to suggest that this policy was approved, however, WVDHHR maintains that they were given verbal approval from the Region on this policy. EPA Region 3 states that they interpret the triennial sampling requirements in the same way as EPA Headquarters; systems are required to collect triennial samples once every three years. A discrepancy was issued to one PWS in the Philippi sample due to this policy.

C. Lead and Copper Discrepancies

The DV team reviewed lead and copper data for two CWSs in the Philippi sample and five NTNCWSs (one for Wheeling and four for Philippi) inserted in SDWIS/Fed in either 1996 or 1997 for initial monitoring forward, and for the two most recent samples for 25 CWSs and 15 NTNCWSs. The team reviewed hard copy records on file in the Central office. For a system-specific listing of lead and copper discrepancies, refer to Exhibit 12. For an enumeration of discrepancies by system type, see Table 4. This table shows numbers of PWSs that did not meet the requirements of the LCR. Instances where the State issued the correct violation and properly submitted it to SDWIS/Fed are not counted or recorded.

Recommendations

- WVDHHR should ensure that all lead 90th percentile levels for large and medium systems, lead 90th percentile exceedances for small systems, and copper 90th percentile exceedances for all systems are submitted to SDWIS/Fed.
- Systems with ALEs should take source water samples, water quality parameters, submit a corrosion control study and engage in public education, for a lead ALE. Failure to take these steps should elicit the appropriate violations.
- WVDHHR should ensure that annual and triennial samples are being taken on schedule.

X. Surface Water Treatment Rule Data

A. Surface Water Treatment Rule Reporting Process

Summaries of monthly operating reports (MORs) are compiled by the PWS operator and forwarded to the WVDHHR Central office. Summaries are reviewed by the staff member responsible for the SWTR, and compliance determination and data transfer are completed in the same manner as for the Phase II/V chemicals. During most of the period of review for the data verification, the staff member responsible for the SWTR was on leave, and responsibility for reviewing MORs was relegated to other staff members. Staffing issues and shifting responsibilities likely account for the undetected treatment technique and M/R discrepancies discussed below.

The State has a few unfiltered ground water under the direct influence of surface water (GUDI) and surface water systems that are required to filter. The Central office has issued violations to these systems, but has not yet taken other enforcement actions against them. The State does not have any systems successfully meeting the criteria to avoid filtration as all surface water and GUDI systems are required to filter. The Philippi District has several unfiltered systems that are searching for new sources. One unfiltered system has been issued violations and

continues to post/publish public notice, but has not yet installed filtration. This is being handled by enforcement staff in the Central office, but the Philippi office has not been updated on the current status. That office sees little chance of the State issuing successful AOs, as they are not perceived as an effective way to return systems to compliance.

Eighty-four percent of CWSs and 80 percent of all NCWSs have completed GUDI determinations. WVDHHR will continue working with systems to complete the GUDI determinations as soon as possible.

B. Surface Water Treatment Rule Discrepancies

The team reviewed hard copy summaries for three surface water systems in the Wheeling sample (two CWSs and one NTNCWS), and eight systems in the Philippi sample (six CWSs and two NTNCWSs).

Wheeling District Office

One NTNCWS was missing an MOR, and the violation was not detected by the State. One CWS had treatment technique violations that were not detected by the State, and one NTNCWS had treatment technique violations that were not reported to SDWIS/Fed.

Philippi District Office

One NTNCWS was missing MORs for three months of the review period. Another NTNCWS was not taking samples every four hours. This had not been noticed by WVDHHR staff because they lack time and personnel to scrutinize MORs. One system had a violation which was not reported to SDWIS/Fed.

For a system-specific listing of SWTR discrepancies, refer to Exhibit 13. For an enumeration of discrepancies by system type, see Table 3E.

Recommendations

- Ensure that Central office staff track the receipt of, and review MORs as they are received from PWSs.
- Report all treatment technique and M/R violations to SDWIS/Fed.

XI. Enforcement Action Data

A. Enforcement Action Procedure

WVDHHR has a formal enforcement escalation policy, which includes statutory and civil judicial authority. The State is currently reviewing and rewriting their enforcement policy to adopt the Federal EPA definitions of significant non compliers (SNCs) for each regulation. Informal actions (e.g., warning letters), Notice of Violation (NOV) with request for public notice, and Boil/Do Not Drink orders are the first steps in the escalation. The District or Central office may also contact the PWS to negotiate compliance. After informal steps are taken, the State may issue an Administrative Order (AO).

Formal enforcement steps include: AOs. AOs may be issued with or without penalties, and in some cases, the State may rescind food service licenses. AOs include requirements to bring systems back into compliance. The State may also initiate criminal proceedings, but has never done so. If the Order is not signed by the system, or if the system does not return to compliance, the water system will be referred to the attorney general's office, or to EPA.

Request for and Receipt of Public Notice Beginning in the year 2001, the DV team began confirming that PN was requested and received for all violations relevant to the compliance periods reviewed. The team conducts the PN review to ensure that PN requested is received by the State within the specified time period and if PN is not received, that violations are assigned for failure to provide PN.

The team noted that copies of PNs were found in the files along with enforcement letters for TCR MCL violations. Generally, PNs for M/R violations were requested from PWSs, but receipt of PN was not tracked, and PN violations were not reported to SDWIS/Fed. However, since PWSs have one year to forward proof of Tier 3 PN, the team did not issue discrepancies for those violations.

The team was pleased to note that WVDHHR keeps 'SOX,' or return to compliance, forms in the system files.

As noted previously regarding the SWTR (Section X.), a system has been issued violations and continues to post/publish public notice, but has not yet come into compliance. This is being handled by enforcement staff, but the Philippi office has not been updated on the current status. That office sees little chance of the State issuing successful AOs, as they are not perceived as an effective way to return systems to compliance.

B. Enforcement Action Discrepancies

The DV team reviewed "formal" enforcement actions which are actions that are required to be reported to SDWIS/Fed.

Wheeling District Office

Two CWSs failed to send proof of PN to the State and no violations were issued.

Philippi District Office

No discrepancies were identified.

For a system-specific listing of enforcement discrepancies, refer to Exhibit 14. For a system-specific listing of public notification discrepancies, refer to Exhibit 15. For an enumeration of discrepancies by system type, see Table 3.

Recommendations

- WVDHHR should continue to work on their written enforcement strategy, and submit it to EPA Region 3 for review and approval.
- WVDHHR should develop a tracking system for PN for all violations, and report all PN violations to SDWIS/Fed.
- If the enforcement team is having difficulty bringing problem systems into compliance, WVDHHR should consider working with Region 3 to develop more effective approaches.

The DV team hopes that the findings and recommendations outlined in this report will be of use to WVDHHR in improving data reporting and tracking methods.

Appendix A

Data Verification Discrepancy Definitions

DATA VERIFICATION DISCREPANCY DEFINITIONS

There are two types of discrepancies: data flow discrepancies and compliance determination discrepancies. Data flow discrepancies are violations of National Primary Drinking Water Regulations that are detected by the State, but are not forwarded to SDWIS/Fed. The team knows that the State detected the violation when it finds correspondence with the system, enforcement actions, or violations in the State database. Data flow discrepancies also occur when the State incorrectly reports the violation to SDWIS/Fed, such as incorrectly coding a violation. Compliance determination discrepancies occur when the State did not detect a violation or reports a violation to SDWIS/Fed that was not substantiated by information contained in the State files or database. The following is a complete list of the types of discrepancies identified by the team and their definitions.

Inventory -- A discrepancy exists if there is a difference between the State data and the data in the SDWIS/Fed 35 report. Inventory data reviewed include:

System Type — Community Water System (CWS), Nontransient Noncommunity Water System (NTNCWS), or Transient Noncommunity Water System (TNCWS).

System Status — Active or Inactive.

Source — Ground Water (GW), Purchased Ground Water (GWP), Surface Water (SW), or Purchased Surface Water (SWP), Ground Water Under the Direct Influence of Surface Water (GUDI) and Purchased Ground Water Under the Direct Influence of Surface Water (PGUDI).

Population and Service Connections — a discrepancy is recorded if the difference between State and SDWIS/Fed data is greater than ten percent, or affects a system's monitoring requirements.

Address, Name, PWSID — address discrepancies are determined from the primary address field.

Owner Type — Federal Government (F), Private (P), State Government (S), Local Government (L), Mixed Public/Private (M), Native American (N).

Sanitary survey — a discrepancy is issued if surveys are not conducted every five years and no '28' violation is issued by the State and submitted to SDWIS/Fed.

Consumer Confidence Report (CCR) — a discrepancy is recorded if a CCR is not received by July of the appropriate year and a violation is not properly assigned by the State and submitted to SDWIS/Fed.

For the remaining elements reviewed during the DV, there are two types of discrepancies noted. The first type are instances where the State files and SDWIS/Fed do not agree, or data flow discrepancies. The second type are compliance determination discrepancies. These discrepancies are either instances where the State overlooked a violation, or when the DV team

determines that the State is not following the federal regulations, its approved primacy package, or another policy approved by the EPA Region. The report will itemize both types of discrepancies.

TCR, Phase II/V, Radiologicals, and TTHMs — For monitoring and reporting (M/R) and maximum contaminant level (MCL) violations, discrepancies are generally of two types: (1) evidence of a violation in the State data that is not recorded in SDWIS/Fed, or; (2) a violation in SDWIS/Fed which is not supported by State data.

LCR — In addition to M/R discrepancies under the Lead and Copper Rule, milestone and treatment technique discrepancies are also noted. Milestones are important system events, such as a lead exceedance (PB90) or copper exceedance (CU90), that are SDWIS/Fed reporting requirements. Treatment techniques include steps that a system is required to take following a lead or copper exceedance to ensure public safety and show compliance with the LCR (e.g., public education or corrosion control study).

SWTR — Discrepancies include: M/R, treatment technique, or filtration status. Treatment techniques refer to turbidity and disinfection residual level requirements under the SWTR. Filtration status indicates whether a system has a filtration plant on line, if the system is unfiltered, or whether the system is in the process of installing filtration.

Enforcement Actions — Enforcement action discrepancies are recorded when an enforcement action is found either only in SDWIS/Fed or only in the State files, or when the dates on the enforcement actions differ by more than a month. Public notification discrepancies are recorded when a violation is found in SDWIS/Fed or the State files, but proof of public notice has not been forwarded to the State by the system and no violation has been assigned.

Reason Codes —

Code	Description	CD or DF?	Examples	Rule
A	No sample data; no violation assigned	CD	May include missing analytical results, sanitary surveys, or consumer confidence reports	All
B	No sample because system incorrectly classified	CD	System has wrong population or source type; listed as wrong system type (e.g., CWS, NTNCWS, TNCWS)	All
C	State policy not approved in writing by Region	CD	Texas nitrite waivers, lab capacity issues forces State to give extensions, don't give vios if State is responsible for monitoring	All
D	Late implementation without written approval by Region	CD		All
E	Violation in State database not reported to SDWIS/FED	DF	State has done accurate compliance determination, entered vio into their database, but hasn't successfully transmitted them to SDWIS/Fed. Possibly because of problems during data submission to SDWIS/Fed.	All
F	Violation assigned by State and not confirmed by DV team	CD	Team finds samples and can't figure out why vio was assigned	All
G	Incorrect information entered into database, e.g., violation type 23 reported when type 24 occurred	CD	State is confused about correct coding	All
H	Typo: correct compliance determination but wrong data entered	DF		All
I	Rescinded violation not removed from State database and/or SDWIS/FED	DF	Usually we see it removed from State database and State forgets to remove violation from SDWIS/Fed	All
J	Incorrect sampling/analytical procedure	CD	Collecting all TCR samples on same day from same site; using raw water; exceeded holding time; lab not certified for method;	All
K	Incorrect MCL or failure to assign vio	CD	Both determination or failure to assign violation altogether. For TCR (e.g., distinguishing between acute and monthly) or chems/rads (not calculating running average correctly)	All
L	Insufficient number of samples taken	CD	Insufficient number of routine samples taken, too few repeats after TC +, failure to increase to 5 in following month, didn't take turbidity every four hrs	TCR/SWTR
M	Incorrect Treatment Technique violation determination or failure to assign vio	CD	State didn't detect system had too many samples above/below the threshold for turbidity and disinfectant residual, respectively	TCR/SWTR
N	Insufficient quarterly monitoring conducted after detect/trigger	CD	Not enough samples to determine Reliably and Consistently (R&C)	Phase II/V
O	Insufficient quarterly monitoring conducted after Chem MCL	CD	Not enough samples to determine R&C after an MCL	Phase II/V
P	No speciation of lab results	CD	After exceeding Gross Alpha or Radium 226 levels	Phase II/V
Q	Chem samples not taken according to schedule	CD	Either Standardized Monitoring Framework, reduced monitoring, or State waiver program	Phase II/V
R	Sample missing one or more analytes	CD	Either specific analytes or method	Phase II/V
S	Failure to assign vio	CD	Didn't submit materials (evidence of PN or certification for CCR)	PN/CCR
T	Wrong date	CD	More than 30 days difference between date in SDWIS and when we believe action was taken	Enforcement
U	Orphan enforcement	DF	Enforcement is not linked to a violation in SDWIS	Enforcement
V	Wrong code	DF	State assigned the incorrect enforcement code	All
W	Insufficient quarterly monitoring for a new system	CD	Didn't take 4 consecutive quarters of samples at system start-up	Phase II/V
X	Enforcement Code not in SDWIS	CD	SOX (or other) code not submitted to SDWIS	Enforcement

Appendix B

Exhibits 1-15

Exhibit 1
Name, Address, Administrative Contact and PWSID Discrepancy Report

PWSID	SYSTEM NAME	ADDRESS	
		STATE RECORDS	SDWIS
COMMUNITY WATER SYSTEMS			
No discrepancies were identified.			
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS			
No discrepancies were identified.			
TRANSIENT NONCOMMUNITY WATER SYSTEMS			
No discrepancies were identified.			

Exhibit 2
Inventory Discrepancy Report

		POPULATION		SERVICE CONNECTIONS		OWNER TYPE		TYPE OF SYSTEM		STATUS OF SYSTEM		SOURCE	
PWSID	SYSTEM NAME	STATE	SDWIS	STATE	SDWIS	STATE	SDWIS	STATE	SDWIS	STATE	SDWIS	STATE	SDWIS
COMMUNITY WATER SYSTEMS													
No discrepancies were identified.													
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS													
No discrepancies were identified.													
TRANSIENT NONCOMMUNITY WATER SYSTEMS													
No discrepancies were identified.													

CAC - Community Active Current
DV - violations assessed by the data verification team
GU - Ground water Under the influence of Surface Water
GW - Groundwater source
GWP - purchased groundwater
ND - no discrepancy
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS
SW = Surface water source
SWP - Purchased surface water

Exhibit 3
Sanitary Survey Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
TRANSIENT NONCOMMUNITY WATER SYSTEMS								
WV9925044	Glen Dale Drive Inn	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 7/6/99. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.
WV9948009	Frums Place	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 8/18/99. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.

Exhibit 3
Sanitary Survey Discrepancy Report

		STATE RECORDS		VIOLATIONS SDWIS		VIOLATIONS DV		
PWSID	SYSTEM NAME	TYPE	DATE	TYPE	DATE	TYPE	DATE	COMMENTS
WV9954001	Belleview Tavern	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 8/24/99. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.
WV9954026	Blennerhasset Island State Park	NF	NF	NF	NF	28	6/29/99	Sanitary survey was completed in 1993. No sanitary surveys completed afterward. Expect to see a sanitary survey completed once every ten years following initial sanitary survey for protected and disinfected ground water systems.
WV9954030	Bellview Hydro Electric Recreation	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 8/15/00. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.

28 - Sanitary Survey Violation, TCR
DV - violations assessed by the data verification team
NF - not found
SDWIS - violations listed in SDWIS
STATE RECORDS - violation assigned by the State

Exhibit 4
Consumer Confidence Report Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

DV - violations assessed by the data verification team
M/R - Monitoring and/or Reporting Violation
ND - no discrepancy
NF - not found
SDWIS - violations listed in SDWIS
STATE RECORDS - violation assigned by the State

Exhibit 5
Total Coliform Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
COMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
NONTRANSIENT NONCOMMUNITY SYSTEMS									
No discrepancies were identified.									
TRANSIENT NONCOMMUNITY WATER SYSTEMS									
WV9915052	Checkered Flag	NF	NF	NF	NF	3100 23	7/1/01	System is required to monitor quarterly. No samples found for the third quarter for 2001. State maintains that since system was new in 7/01, they would not expect to see TCR results for this quarter. However, the Federal regulations state "A non-community water system using only groundwater...and serving 1,000 persons or fewer must monitor each calendar quarter that the system provides water to the public..." (40 CFR § 141.21(a)(3)(i)). The team interprets this to mean that the system is required to monitor for TCR in every quarter that water is being served to the public.	1 cd M/R A
WV9943037	Mcfarlands Quick N Easy	NF	NF	NF	NF	3100 24	8/1/01	System was required to collect 15 repeat samples for 5 TC+ routine samples in 8/01. Only 3 were collected. No violations issued.	1 cd M/R L

Exhibit 5
Total Coliform Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
WV9943037	Mcfarlands Quick N Easy (continued)	NF	NF	NF	NF	3100 23	9/1/01	System was required to collect 5 samples for TC+ routine samples in previous month. No samples were collected. No violation issued.	1 cd M/R A

3100 - TCR
23 - M/R Routine Major
24 - M/R Routine Minor
 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 6
Nitrate/Nitrite Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
COMMUNITY WATER SYSTEMS									
WV3302607	Marshall County PSD 2	NF	NF	NF	NF	1040 03	1/1/2001	Sample collected on 12/27/01 exceeded the laboratory hold time. Client authorized analysis of the sample anyway. Not a valid sample. No violation issued.	1 cd M/R J
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
TRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									

1040 - Nitrate
1041 - Nitrite
03 - M/R violation
 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 7
IOC Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
COMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS									
WV9925009	Columbian Chemical	NF	NF	NF	NF	1074 03 1024 03 1036 03	1/1/99	Results for sample collected 9/15/99 missing Antimony, Cyanide and Nickel. No violation issued.	1 cd M/R R

1074 - Antimony
1024 - Cyanide
1036 - Nickel
03 - M/R Violation

 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*

M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 8
VOC Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
COMMUNITY WATER SYSTEMS									
WV3301515	New Cumberland, City of	NF	NF	NF	NF	2984 03	3Q99 4Q99	Trichloroethylene detected (0.0028 mg/L) in sample collected 5/20/99. Expect to see two quarters of samples to determine R&C below the MCL. No quarterly samples collected, no violation issued.	2 cd M/R N
WV3302605	Glen Dale Water Works	2984 02	1/1/99	2984 02	1/1/99	2984 01	1/1/99	Sample result for trichloroethylene (.0292 mg/L) is four times the MCL. This is a single sample MCL violation and should have the code '01' instead of '02' for an MCL based on an annual running average. Recent communication with the State indicates that the code was changed in SDWIS on 8/2/02.	1 cd MCL G
WV3302610	McMechen Municipal Water	NF	NF	NF	NF	2984 03	2Q99 3Q99	Trichloroethylene detect (.0023 mg/L) in sample collected 3/3/99. Expect to see two quarters of samples to determine R&C below the MCL. No quarterly samples collected, no violation issued.	2 cd M/R N

Exhibit 8
VOC Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
WV3302611	Moundsville	NF	NF	NF	NF	2984 03	3Q99 4Q99	Trichloroethylene detect (.0013 mg/L) in sample collected 5/4/99. Expect to see two quarters of samples to determine R&C below the MCL. No quarterly samples collected, no violation issued.	2 cd M/R N
NONTRANSIENT NONCOMMUNITY SYSTEMS									
WV9925009	Columbian Chemical	NF	NF	NF	NF	All VOCs 03	1/1/99	No VOC samples found for the 99-01 compliance period. No violation issued.	1 cd M/R A

2984 - Trichloroethylene
01 - Single sample MCL violation
02 - Average annual MCL violation
03 - M/R violation
 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 9
SOC Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
COMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS									
WV9925009	Columbian Chemical	NF	NF	NF	NF	2010 03	1/1/99	Results for sample collected 1/5/00 missing Lindane. No violation issued.	1 cd M/R R

2010 - Lindane
03 - M/R violation
 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team

*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found

STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 10
Total Trihalomethanes Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 11
Radiological Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
COMMUNITY WATER SYSTEMS									
WV3301520	Mountaineer Park	NF	NF	NF	NF	4000 03	1/1/95	Samples were collected in 12/91 and 3/99. Expect to see samples collected every four years for reduced monitoring. No samples found for 1995. No violation issued.	1 cd M/R A

4000 - Gross Alpha
03 - M/R violation
 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 12
Lead and Copper Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	REQUIREMENT	VIOLATION CODE	DISCREPANCY TYPE	COMMENTS
COMMUNITY WATER SYSTEMS					
WV3305204	Paden City	Steps Required after ALE	N/A	ALE not reported to SDWIS	Cu ALE (4.07 mg/L) in samples collected 6/11/01 was not reported to SDWIS.
		Steps Required after ALE	N/A	ALE not reported to SDWIS	Cu ALE (4.88 mg/L) in samples collected 12/3/01 was not reported to SDWIS.
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS					
WV9935008	Coronet Foods Inc	Routine/Follow-up Monitoring	52	Did not sample in summer months	1999 samples were collected in November. Routine annual/triennial samples should be collected in summer months (June - September). No violation issued.

Exhibit 13
Surface Water Treatment Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
COMMUNITY WATER SYSTEMS									
WV3301504	Chester City of	NF	NF	NF	NF	200 41	12/1/01	25 samples were above standard for turbidity giving only 86.6% of samples meeting turbidity standards. Filtered water turbidity must meet limits in at least 95% of monthly measurements. No violation issued.	1 cd TT M
		NF	NF	NF	NF	200 41	2/1/02	38 samples were above standard for turbidity giving only 77.4% of samples meeting turbidity standards. Filtered water turbidity must meet limits in at least 95% of monthly measurements. No violation issued.	1 cd TT M
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS									
WV9925016	Bayer Inc	200 41	2/1/02	NF	NF	200 41	2/1/02	38 samples were above standard for turbidity giving only 77.4% of samples meeting turbidity standards. Filtered water turbidity must meet limits in at least 95% of monthly measurements. No violation issued. State reported violation to SDWIS/Fed after DV team on-site visit. PN was posted by company on site, and received by State 3/9/02. PWS also addressed turbidity problems by performing filter maintenance and improving filter aid testing.	1 df TT E

Exhibit 13
Surface Water Treatment Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
WV992016	Bayer Inc (continued)	200 41	12/1/02	NF	NF	200 41	12/1/02	25 samples were above standard for turbidity giving only 86.6% of samples meeting turbidity standards. Filtered water turbidity must meet limits in at least 95% of monthly measurements. No violation issued. State reported violation to SDWIS/Fed after DV team on-site visit. PN was posted by company on site, and received by State 3/9/02. PWS also addressed turbidity problems by performing filter maintenance and improving filter aid testing.	1 df TT E
TRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									

200 - SWTR
41 - Treatment Technique violation
 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS
TT -Treatment Technique Violation

Exhibit 14
Enforcement Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	SDWIS TYPE	SDWIS DATE	DV TYPE	DV DATE	Related Violation and Date	COMMENTS
COMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
TRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									

DV - Enforcement actions assessed by the D.V. team

STATE RECORDS - Enforcement actions issued by the State

SDWIS - Enforcement actions listed in SDWIS

Exhibit 15
Public Notification Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	SDWIS TYPE	SDWIS DATE	DV TYPE	DV DATE	Related Violation and Date	COMMENTS	
COMMUNITY WATER SYSTEMS										
WV3301520	Mountaineer Park	NF	NF	NF	NF	3100 06	9/16/01	3100 22 6/1/01	PN was requested on 8/7/01, copy not received by State until 2002. No violation issued. Tier 2 PN requires that system post PN within 20 days of being notified of the violation, and submitting certification of PN to State 10 days after completing PN requirements.	1 cd PN S
WV3302605	Glen Dale Water Works	NF	NF	NF	NF	2984 06	2/1/99	2984 02 1/1/99	PN was requested on 4/25/00, but never received. No violation issued.	1 cd PN S
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS										
No discrepancies were identified.										
TRANSIENT NONCOMMUNITY WATER SYSTEMS										
No discrepancies were identified										

3100 - Total coliform rule
22 - TCR MCL violation
23 - TCR Routine Major violation
2984 - Trichloroethylene
02 - Average Annual MCL
DV - Actions assessed by the D.V. team
*Q_ - Calendar quarter, 199_*
NF - not found
PN - Public Notice
STATE RECORDS - Enforcement actions issued by the State
SDWIS - Enforcement actions listed in SDWIS

Exhibit 1
Name, Address, Administrative Contact and PWSID Discrepancy Report

		ADDRESS	
PWSID	SYSTEM NAME	STATE RECORDS	SDWIS
COMMUNITY WATER SYSTEMS			
WV3300410	McLaughlins Trailer Park	Prior to 1981PWS ID was 3300403. System was removed from inventory in 10/1981. System was reinserted into inventory in 5/2001 with PWS ID 3300410. PWS ID's, once assigned, should never be changed. Counted as a discrepancy.	PWS ID = 3300410
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS			
WV9924006	Loveridge Mine Sugar Run	AC = NF	AC = Consol Coal Company - Loveridge Mine
TRANSIENT NONCOMMUNITY WATER SYSTEMS			
No discrepancies were identified.			

AC - Administrative contact

Exhibit 2
Inventory Discrepancy Report

		POPULATION		SERVICE CONNECTIONS		OWNER TYPE		TYPE OF SYSTEM		STATUS OF SYSTEM		SOURCE	
PWSID	SYSTEM NAME	STATE	SDWIS	STATE	SDWIS	STATE	SDWIS	STATE	SDWIS	STATE	SDWIS	STATE	SDWIS
COMMUNITY WATER SYSTEMS													
No discrepancies were identified.													
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS													
No discrepancies were identified.													
TRANSIENT NONCOMMUNITY WATER SYSTEMS													
WV9942091	Kumbrabow State Forest Bath House					S	NF						

CAC - Community Active Current
DV - violations assessed by the data verification team
GU - Ground water Under the influence of Surface Water
GW - Groundwater source
GWP - purchased groundwater
ND - no discrepancy
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS
S - State government
SW - Surface water source
SWP - Purchased surface water

Exhibit 3
Sanitary Survey Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
TRANSIENT NONCOMMUNITY WATER SYSTEMS								
WV9939118	Melanies Family Restaurant	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 10/28/99. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.
WV9946009	Camp Towels	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 8/11/99. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.

Exhibit 3
Sanitary Survey Discrepancy Report

		STATE RECORDS		VIOLATIONS SDWIS		VIOLATIONS DV		
PWSID	SYSTEM NAME	TYPE	DATE	TYPE	DATE	TYPE	DATE	COMMENTS
WV9947021	Red Creek Campground 0156	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 11/16/99. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.
WV9947032	Beaver Ridge Resort	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 3/7/00. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.
WV9951019	USFS Bishop Knob 021	NF	NF	NF	NF	28	6/29/99	Sanitary survey not completed until 8/3/99. Sanitary surveys for noncommunity water systems due by 6/29/99. Due to limited resources sanitary surveys were prioritized by system type and TNCWSs were the last to be completed.

28 - Sanitary Survey Violation, TCR
DV - violations assessed by the data verification team
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
ND - no discrepancy
NF - not found
SDWIS - violations listed in SDWIS
STATE RECORDS - violation assigned by the State

Exhibit 4
Consumer Confidence Report Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

DV - violations assessed by the data verification team
M/R - Monitoring and/or Reporting Violation
ND - no discrepancy
NF - not found
SDWIS - violations listed in SDWIS
STATE RECORDS - violation assigned by the State

Exhibit 5
Total Coliform Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
NONTRANSIENT NONCOMMUNITY SYSTEMS								
No discrepancies were identified.								
TRANSIENT NONCOMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 6
Nitrate/Nitrite Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
TRANSIENT NONCOMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

1040 - Nitrate
1041 - Nitrite
 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 7
IOC Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
POE - Point of Entry
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 8
VOC Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
NONTRANSIENT NONCOMMUNITY SYSTEMS								
No discrepancies were identified.								

 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
POE - Point of Entry
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 9
SOC Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
POE - Point of Entry
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 10
Total Trihalomethanes Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
POE - Point of Entry
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 11
Radiological Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS
COMMUNITY WATER SYSTEMS								
No discrepancies were identified.								

 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
POE - Point of Entry
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS

Exhibit 12
Lead and Copper Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	REQUIREMENT	VIOLATION CODE	DISCREPANCY TYPE	COMMENTS
COMMUNITY WATER SYSTEMS					
WV3302504	Farmington Water	Routine/Follow-up Monitoring	52	Calculated 90th percentile incorrectly	System collected five samples in 8/00. Reported 90th percentile value for Cu was .4 mg/L. The value should have been .2 mg/L. When only five samples are collected, the 4th and 5th highest values should be averaged together to calculate the 90th percentile value.
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS					
WV9938019	Green Bank School	Routine/Follow-up Monitoring	52	Did not complete triennial samples	System is on triennial monitoring. Last samples collected 6/10/98. First triennial sample should have been completed in 2001. However, state has been giving systems a 3 year window in which to collect the triennial samples (i.e. this system was given the three year period 2001-2003 to complete triennial sampling that was due in 2001). DV team believes that triennial samples should be completed 3 yrs from the last sample date.
WV9951030	Erbacon Prep Plant Coastal Coal	Steps Required after ALE	N/A	Did not report ALE to SDWIS	Pb ALE (.038 mg/L) in 3/99 not reported to SDWIS.
		Steps Required after ALE	53	Never collected WQPs	Due by 6/30/99. Never completed. State assigned violation for 1/1/01. DV team believes the violation date to be 6/30/99 since WQPs are required to be collected within the same 6 month period as the ALE.

Exhibit 12
Lead and Copper Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	REQUIREMENT	VIOLATION CODE	DISCREPANCY TYPE	COMMENTS
	Erbacon Prep Plant Coastal Coal (cont)	Steps Required after ALE	56	Never collected source water samples	Due by 12/31/99. Never collected. State assigned violation for 1/1/01. DV team believes the violation date should be 12/31/99 since source water samples should be collected within 6 months after the ALE.
		Steps Required after ALE	57	OCCT Study and/or recommendations: failed to meet deadlines	Due by 12/31/99. Never completed. No violation issued.
		Steps Required after ALE	65	Public Education: Failed to do PE on time and at proper frequency	Letter describing PE activities for the year due by 12/31/99. Never completed. State issued violation dated 7/26/01. DV team believes violations should have been issued for 12/31/99, 12/31/00 and 12/31/01 since the system continued to have Pb ALEs into 2001. Public education should be completed each year there is still an ALE.
		Steps Required after ALE	N/A	Did not report ALE to SDWIS	Pb ALE (.048 mg/L) in 12/99 not reported to SDWIS.
		Steps Required after ALE	N/A	Did not report ALE to SDWIS	Pb ALE (.020 mg/L) in 2/00 not reported to SDWIS.
		Steps Required after ALE	N/A	Did not report ALE to SDWIS	Pb ALE (.018 mg/L) in 12/00 not reported to SDWIS.
		Steps Required after ALE	N/A	Did not report ALE to SDWIS	Pb ALE (.017 mg/L) in 6/01 not reported to SDWIS.
WV9904022	Coastal Coal Mine	Routine/Follow-up Monitoring	52	Did not complete annual samples	System finished initial monitoring in 12/99. No annual samples collected for 2000. No violation issued.

Exhibit 13
Surface Water Treatment Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
COMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS									
WV9924006	Loveridge Mine Sugar Run	NF	NF	NF	NF	200 36	7/1/01		
		NF	NF	NF	NF	200 36	10/1/01	MORs could not be found for these months in the state PWS files.	3 cd M/R A
		NF	NF	NF	NF	200 36	1/1/02		
WV9931030	Consol Loveridge Mine Miracle Run	NF	NF	NF	NF	200 36	4/1/02	System did not collect enough disinfectant residual samples for number of hours in operation. Samples should be collected every four hours.	1 cd M/R L
		NF	NF	NF	NF	200 36	5/1/02	System did not collect enough turbidity and disinfectant residual samples for number of hours in operation. Samples should be collected every four hours.	1 cd M/R L
		NF	NF	NF	NF	200 36	6/1/02	System did not collect enough disinfectant residual samples for number of hours in operation. Samples should be collected every four hours.	1 cd M/R L

Exhibit 13
Surface Water Treatment Rule Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	VIOLATIONS SDWIS TYPE	VIOLATIONS SDWIS DATE	VIOLATIONS DV TYPE	VIOLATIONS DV DATE	COMMENTS	
	Consol Loveridge Mine Miracle Run (cont)	NF	NF	NF	NF	200 36	7/1/02	System did not collect enough disinfectant residual samples for number of hours in operation. Samples should be collected every four hours.	1 cd M/R L
		200 36	9/1/02	NF	NF	200 36	9/1/02	Violation was not reported to SDWIS.	1 df M/R E
TRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									

200 - SWTR
36 - M/R violation
 # cd M/R (or MCL) - a compliance determination discrepancy
 # df M/R (or MCL) - a data flow discrepancy
DV - violations assessed by the data verification team
*Q_ - Calendar quarter, 199_*
M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
STATE RECORDS - violation assigned by the State
SDWIS - violations listed in SDWIS
TT -Treatment Technique Violation

Exhibit 14
Enforcement Violation Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	SDWIS TYPE	SDWIS DATE	DV TYPE	DV DATE	Related Violation and Date	COMMENTS
COMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
TRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									

DV - Enforcement actions assessed by the D.V. team
*Q_ - Calendar quarter, 199_*

M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found

STATE RECORDS - Enforcement actions issued by the State
SDWIS - Enforcement actions listed in SDWIS

Exhibit 15
Public Notification Discrepancy Report

PWSID	SYSTEM NAME	STATE RECORDS TYPE	STATE RECORDS DATE	SDWIS TYPE	SDWIS DATE	DV TYPE	DV DATE	Related Violation and Date	COMMENTS
COMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
NONTRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									
TRANSIENT NONCOMMUNITY WATER SYSTEMS									
No discrepancies were identified.									

DV - Enforcement actions assessed by the D.V. team
*Q_ - Calendar quarter, 199_*

M/R - Monitoring and/or Reporting Violation
MCL - Maximum Contaminant Level Violation
NF - not found
PN - Public Notice

STATE RECORDS - Enforcement actions issued by the State
SDWIS - Enforcement actions listed in SDWIS